

WHAT IS CLAIMED IS:

1. An apparatus for removing material from a target area of a breast of a human or an animal, the apparatus comprising:

a handpiece;

5 a cannula including a proximal end portion structured to be coupled to the handpiece and an open distal tip structured to be placed in a target area of a breast of a human or an animal; and

10 a rotational element structured to be operatively coupled to a source of rotational energy, the rotational element disposed at least partially in the cannula and being structured to at least assist in drawing material from the target area of a breast into the cannula.

2. The apparatus of claim 1 wherein the rotational element and the cannula cooperatively engage to form a source of suction effective in drawing material from a target area of a breast into the cannula in response to
5 rotation of the rotational element.

3. The apparatus of claim 2 which includes no other source of suction or aspiration.

4. The apparatus of claim 1 wherein the rotational element includes a shaft and one or more outwardly extending projections.

5. The apparatus of claim 4 wherein the one or more outwardly extending projections have a substantially helical configuration.

6. The apparatus of claim 1 wherein the rotational

element includes a distal portion that extends beyond the open distal tip of the cannula.

7. The apparatus of claim 6 wherein the distal portion of the rotational element includes one or more outwardly extending projections having a substantially helical configuration.

8. The apparatus of claim 6 wherein the rotational element includes a shaft portion that extends beyond the open distal tip of the cannula.

9. The apparatus of claim 1 wherein the rotational element includes a distal portion that extends a distance in a range of about 0.02 inches to about 1 inch beyond the open distal tip of the cannula.

10. The apparatus of claim 1 wherein the cannula has an outer diameter no greater than about 5 mm.

11. The apparatus of claim 1 wherein the cannula has an outer diameter no greater than about 2 mm.

12. The apparatus of claim 1 wherein the open distal tip of the cannula is beveled or is substantially perpendicular with respect to a longitudinal axis of the cannula.

13. The apparatus of claim 1 further comprising a collection chamber, in communication with the cannula, structured to contain material passed through the cannula.

14. The apparatus of claim 13 wherein the collection chamber is structured to facilitate quantification of the material removed from a breast of a human or animal.

15. The apparatus of claim 1 wherein the cannula is structured to be manually deformable.

16. The apparatus of claim 1 which further comprises a motor operatively coupled to the rotational element to provide rotation to the rotational element.

17. An apparatus for removing tissue from a target area of a breast of a human or an animal, the apparatus comprising:

a handpiece;

5 a cannula, having an outer diameter of about 5 mm or less, and including a proximal end portion structured to be coupled to the handpiece and an open distal tip structured to be placed in a target area of a breast of a human or animal; and

10 a rotational element structured to cooperate with the cannula in drawing tissue into the open distal tip in response to rotation of the rotational element, the rotational element including a shaft and having distal portion extending beyond the open distal tip of the
15 cannula, and a proximal end portion structured to be operatively coupled to a source of rotational energy.

18. The apparatus of claim 17 wherein the rotational element and the cannula are sized and positioned to cooperate to form suction effective in drawing tissue from a breast into the cannula in response to rotation of the
5 rotational element.

19. The apparatus of claim 17 which includes no other source of suction or aspiration.

20. The apparatus of claim 17 wherein the rotational element includes one or more outwardly extending projections.

21. The apparatus of claim 20 wherein the one or more outwardly extending projections have a substantially helical configuration.

22. The apparatus of claim 17 wherein the distal portion of the rotational element includes one or more outwardly extending projections having a substantially helical configuration.

23. The apparatus of claim 17 wherein the shaft extends beyond the open distal tip of the cannula.

24. The apparatus of claim 17 wherein the distal portion of the rotational element extends a distance in a range of about 0.02 inches to about 1 inch beyond the open distal tip of the cannula.

25. The apparatus of claim 17 wherein the cannula has an outer diameter no greater than about 2 mm.

26. The apparatus of claim 17 wherein the open distal tip of the cannula is beveled or is substantially perpendicular with respect to a longitudinal axis of the cannula.

27. The apparatus of claim 17 further comprising a collection chamber, in communication with the cannula, structured to contain tissue passed through the cannula.

28. The apparatus of claim 27 wherein the collection chamber is structured to facilitate quantification of

tissue passed through the cannula.

29. The apparatus of claim 17 wherein the cannula is manually deformable.

30. A method of removing material from a breast of a human or an animal, the method comprising the steps of:

5 placing into a breast of a human or an animal a cannula having an open, distal tip and a rotational element disposed at least partially in the cannula; and

rotating the rotational element relative to the cannula, thereby at least assisting in drawing a material from the breast into the open distal tip of the cannula.

31. The method of claim 30 which further comprises passing the material from the breast through the cannula.

5 32. The method of claim 30 wherein the placing step includes percutaneously introducing the cannula into the body, and positioning the open distal tip of the cannula in close proximity to the material from the breast to be removed.

5 33. The method of claim 30 wherein the cannula and rotational element are sized and positioned so that the rotating step is effective to create suction effective in drawing the material from the breast into the open distal tip of the cannula.

34. The method of claim 30 wherein the cannula has an outer diameter no larger than about 5 mm.

35. The method of claim 30 wherein the cannula has an outer diameter no larger than about 2 mm.

36. The method of claim 30 wherein the material from the breast is removed without applying additional suction or aspiration to the open distal tip of the cannula.

37. The method of claim 30 wherein the step of rotating is effective in drawing the material from the breast into the open distal tip of the cannula as a substantially single continuous piece.

38. The method of claim 30 further comprising at least one of collecting the removed material from the breast and observing the removed material from the breast.